Advanced ASP.NET Features and WCF Hands-On Examination

Duration: 3Hours   **Max. Marks: 50**

Instructions:

1. Create a workspace and project with Folder Name<yourname> on Desktop. Save all your files in this project only.
2. Referring Documentation is allowed.
3. Do not carry any training material.
4. Write your name top left corner of the test paper.
5. Use of Visual StudioIDE only.
6. Submission:-Only the source files should be copied in a folder<yourname> and submitted to the invigilator.
7. (DotNet FA-5 Subjective Set-1 Final IMSDB.sql) file has been provided for the readily creation of Database tables & stored procedures.
8. **Read all the section of paper carefully.**
9. **Marks will be only awarded to working functionalities.**

Coding Standards:

The following coding standards are to be followed during the implementation of the application.

For Data Access Layer:

Object Type	Naming convention	Example
Variable	Camel casing	qtyOnShelf
Methods	Pascal casing	GetInsertDetails
Classes	Pascal casing	ItemsDAL

Guidelines on naming conventions of validation controls:

The coding standards to be followed for validation controls are as follows:

Control to be validated	Validation Control	Examples
txtEmployeeNumber	RequiredFieldValidator	rfvEmployeeNumber
txtDateOfBirth	CompareValidator	cmpvDateOfBirth
txtMarks	RangeValidator	rvMarks
txtName	RegularExpressionValidator	revName

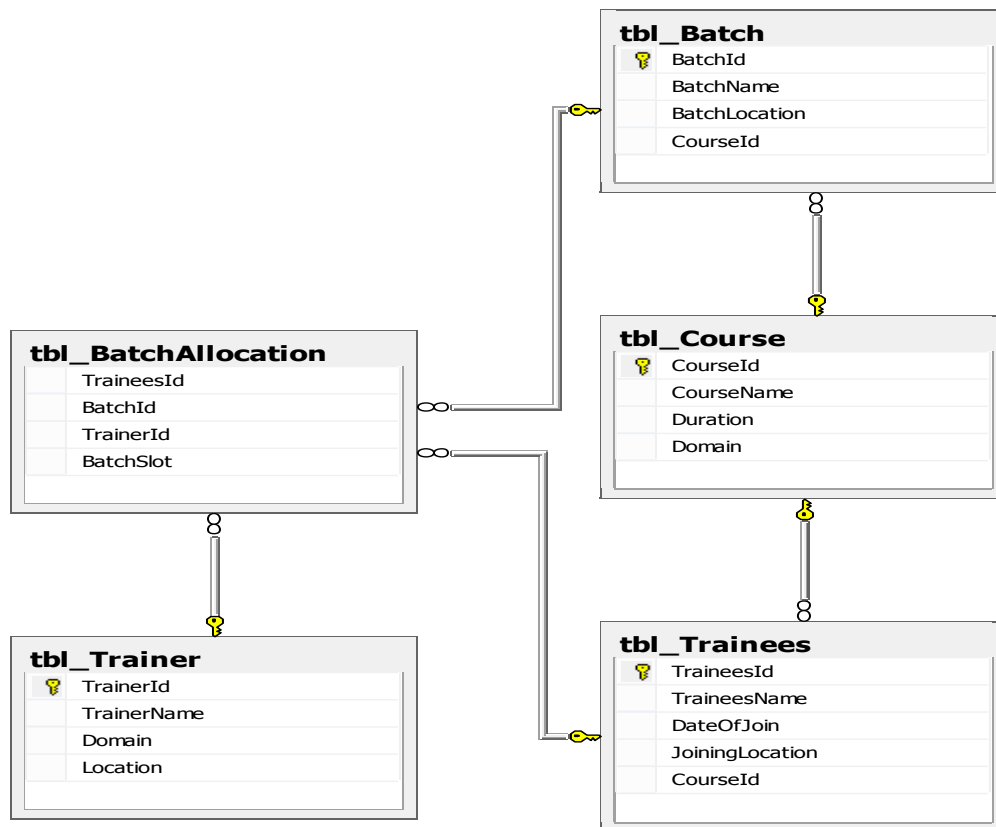| txtDate	CustomValidator	cvDate
AddEmployee.aspx (Page Name)	ValidationSummary	vsAddEmployee

Problem Statement

ABC Institute Of information technology is a one of the fasted growing training company having braches in all most of the major cities. They need to maintain their Business process entirely online, So you are assigned to develop an online demo portal for them to maintain their Batch, Trainers, Trainees and Batch Allotment.

Database

Execute the given SQL script. Verify for the successful execution of the supplied script.

Database Design:

1. **Tables:**

a. **Table Name:tbl_Trainer**

This table contains the details for each specialization.

Fields:

Field Name	Data Type	Description
TrainerId	CHAR(4)	Primary key
TrainerName	VARCHAR(20)	Name of the Specialization, mandatory.
Domain	VARCHAR(20)	Only Java, DotNet, Testing, Mainframe
Location	VARCHAR(20)	Only Pune, Mumbai, Chennai, Delhi

Sample Data:

TrainerId	TrainerName	Domain	Location
T001	Aman	Dot Net	Pune
T002	Ashi	Java	Delhi
T003	Binod	Testing	Mumbai

b. **Table Name: tbl_Course**

This table contains the details of Course.

Fields:

Field Name	Data Type	Description
CourseID	CHAR(4)	Primary key
CourseName	VARCHAR(20)	Mandatory
Duration	Int	In hour, Mandatory
Domain	VARCHAR(20)	As mention above

Sample Data:

CourseID	CourseName	Duration	Domain
C001	Basic .Net	60	DotNet
C002	Advance .Net	120	DotNet
C003	Java1.4	100	Java

c. **Table Name: tbl_Batch**

This table contains the details of Batch.

Fields:

Field Name	Data Type	Description
BatchId	CHAR(4)	Primary key
BatchName	VARCHAR(50)	Mandatory
BatchLocation	VARCHAR(50)	Same as above

CourseId	CHAR(4)	Must be exists in Course Table

Sample Data:

BatchId	BatchName	BatchLocation	CourseId
B001	DN01	Pune	C001
B002	AJ01	Delhi	C003
B003	DN002	Pune	C002

d. Table Name: tbl_Trainees

This table contains the details of surgeries that would be performed.

Fields:

Field Name	Data Type	Description
TraineesId	CHAR(4)	PRIMARY KEY
Trainne Name	VARCHAR(50)	Mandatory
DateOfJoin	DATE	Date Of Join cannot be back dated
JoiningLocation	VARCHAR(50)	Must be match with all tables, only mentioned locations should be inserted.
CourseId	CHAR(4)	Must exists in Course table

2. Stored Procedures:

The database contains following stored procedures.

```
1. usp_InsertTrainerDetails
```

This procedure is used to insert Trainers details in tbl_Trainer table.

Input Parameters:

- All columns are input parameter

Return Values:

- 1 - in case of successful insertion
- -1 -if doctor is not available

```
2. usp_GetLastId
```
This procedure is used get the last trainer Id from trainer table.

Output Parameters:

- Id

Return Values:

- 1 - in case of successful insertions
- -1 - in case of any error or exception

Similarly some more procedure like `usp_GetLastBatchId, usp_GetLastTraineeId for the same purpose.`

Web Application Development

<u>**NOTE:**</u>

- **Use client side validation wherever applicable**
- **Use parameterized query wherever applicable**
- **Use web configuration files of web application and web service for application level settings**

[2 Marks]

- **Data Access Layer should be used for accessing database in web application and web service**

[1 Mark]

- **Implement declarative and structured exception handling**

[3 Marks]

Web Service Implementation

Functionality

Create the web method 'GenerateId'to get the next Id for insert operation for Trainer, Batch, and Trainees table.

- The web method of the web service will take two parameter (one procedure Name and Initial letter for respective Id's like for Trainer Table – "T", Trainees Table – "S" , Batch Table – "B".

  Business Logic:

  string LastId = fetch last ID from table

  string cId;

  int id = Int32.Parse(LastId.Substring(1, 3));

  id++;

  if (id < 9)

     cId =IniLater+"00" + id;

  else if (id > 9 && id < 99)

     cId =IniLater+ "0" + id;

  else

     cId = IniLater + id; return cId;

- The web method should return the stored procedure's output parameter values.
- Connections string should be written in a web.config file once only.
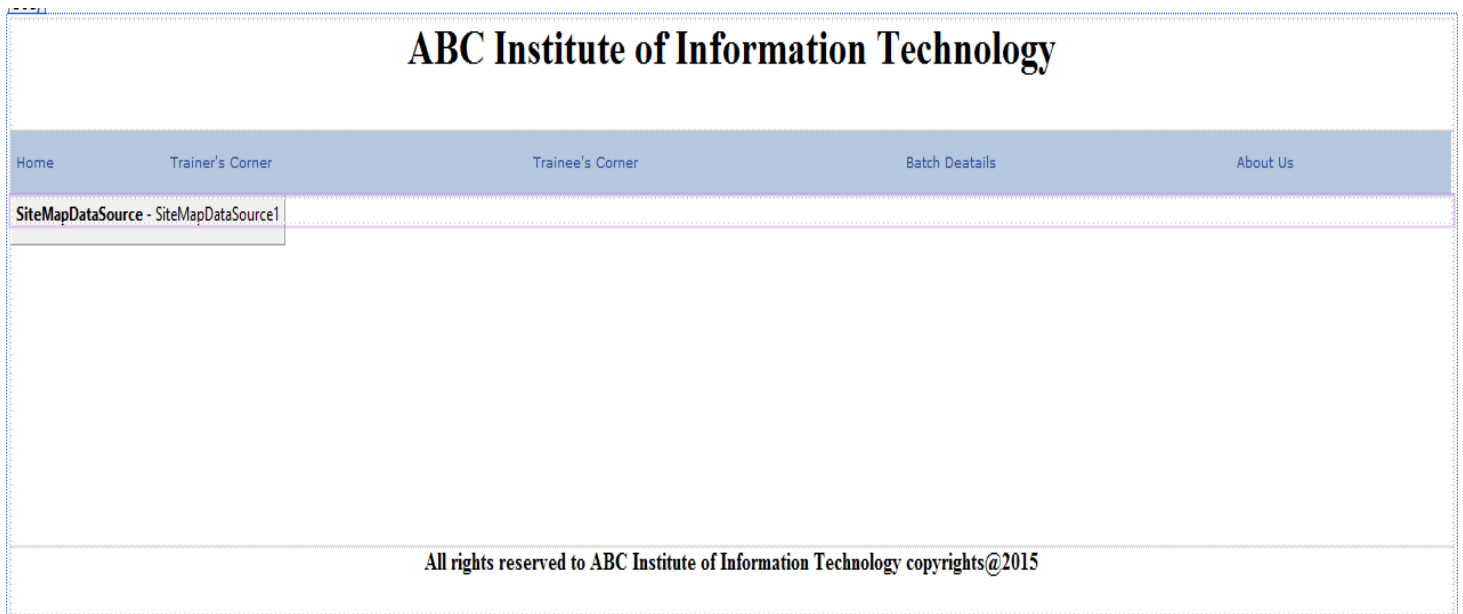
[9 Marks]

Web Application Implementation

The provided web application has the following contents:

1. IMSmain.master
2. Home.aspx
3. Trainer.aspx
4. Trainees.aspx
5. Batch.aspx
6. AltBatch.aspx
7. Web.config
8. Web.Sitemap

NOTE: The master page "IMSmain.master" is provided as shown below

1. IMSmain.master

[7 Marks]

- The master page is containing menu. The Data source of menu is Web.sitemap. Define all link in web.sitemap file as mentioned above.
- Use proper div to separate all area like header, menu, content and footer part.

Screenshots for your reference:

ABC Institute of Information Technology

| Home | Trainer's Corner | Trainee's Corner | Batch Information | ▶ | About Us |

Trainer ID   T005

Trainer Name

Domain

Location

Add

Fig-P1

- Trainer.aspx   [9 marks]

  o Trainer Id should be generated automatically using web service function which should be called during Page_load.
  o Trainer ID field should be non-editable.
  o Add GridView to display all trainers details.
  o Use proper function to insert records in Trainer table with complete validation.

- Trainees.aspx   [9 marks]
  o Same as above
  o Add one more section in Trainees Page for modify the existing records as well as Showing all Trainees information using Repeater control in a customized view.
  o Add a function for searching specific Trainees details using Id.

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TraineesId   S004

Trainees Name

Date Of Joining

Joining Location

CourseId

Add

Fig-P2

- **Batch Information**

ABC Institute of Information Technology

Home	Trainer's Corner	Trainee's Corner	Batch Information	▶	About Us

Add Batch
Allocate Batch

TraineesId   S004

Trainees Name

Date Of Joining

Joining Location

CourseId

[Add]

☐ Batch Allocation Page   ✕

← → C ☐ localhost:22110/AltBatch.aspx

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Home	Trainer's Corner	Trainee's Corner	Batch Information	▶	About Us

BatchId   B001 ▾

Trainer Id   T001 ▾

Trainee Id   S001 ▾

Batch Slot   MWF ▾

[Add In Batch]

o **Functionality:**   **[10 marks]**
  - o Use proper data source to fetch the relevant data.
  - o With selection of batch ID, related Trainer id and Trainees id will get filtered as per given location.
  - o After selection of Trainer and Trainees Id select batch slot.
  - o Use proper validation to check inputs.
  - o Add Form View to show the Allotment details.
  - o Batch slot will be defined as below:

DisplayField	ValueField
--Select--	0
MWF	MWF
TTS	TTS
MTW	MTW
TFS	TFS

***************************** END *****************************